Software Requirements Specification
for
Fpt Co. Training Web-application

Version 0.1

Prepared by

Nguyen Ngoc Khanh

Instructor:	Hoang Nhu Vinh
Course:	1670- Application Developments
Lab Section:	*Assignment 1 & 2*
Teaching Assistant:	
Date:	<place the date of submission here>

Revisions

Version	Primary Author(s)	Description of Version	Date Completed
0.1	Nguyen Ngoc Khanh	Began initial release	2020/08/14

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0.1	Nguyen Ngoc Khanh	Began initial release	2020/08/14

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1 Introduction

In modern life, technology is being developed like a storm, as well as, affected humans living on lots of sides, such as economic, communication, social, education, etc. Building the continuing study environment throughout corporations is necessary for the development of the FPT Co. in present, in addition, ensuring the training of the human resource process in the future. In *Introduction* section, includes the purpose of System Requirements Specifications documentation, the scope of the product, intended audience, and document overview. In addition, this section also defines acronyms and abbreviations, as well as, provides the descriptions conventions, and the list of documentation that referred or mentioned.

1.1 Document Purpose

This documentation contains the software functional and non- functional requirements of FPT Co. Training Web-application which ensures that the software vendor and FPT Co. are in agreement as to the features required in the software system being built. In addition, SRS also contains analytical models, such as use case diagrams, entity relationship diagrams, data flow diagrams, etc.) that provides the detailed design and development of the software system.

1.2 Product Scope

FPT Co. Training Web-application is an enterprise software dedicated to manages the activity of "Training" for internal training program of the company. This system used by HR department to manage trainee accounts, manage trainers, manage course categories, manage courses, manage topics, assign topic to course, assign trainer to topic, assign trainee to course.

The system ensures continuing study environment throughout the FPT Co. by optimize management training activities of the HR department through divided into 4 roles in system, includes: an administrator, training staff, trainer and trainees. Trainer and trainee roles will affected by monitor of administrator with training staff. The detailed feature of each roles shown as **Figure 1**.

FPT Co. Training Web-application

Administrator
- Login into the system through the first page of the application
- Manage user accounts for training staff/ trainer (C.R.U.D)
- Assign/ change (if existing user) username and password

Training Staff
- Login into the system by username and password that administrator assigned
- Manage trainee accounts (C.R.U.D)
- Search by trainee account, programming language, TOEIC score,...
- Manage course categories (C.R.U.D)
- Search by course name, course ID
- Manage topic (C.R.U.D)
- Assign topic (such as topic name and topic descriptions) into a course
- Assign courses into a category
- Assign trainer to a topic
- Assign trainee to a course
- Edit trainer profile

Trainer
- Login into the system by username and password that registered by administrators
- View personal profile
- View topics that trainer is assigned to
- View courses which have a topic he is assigned to

Trainee
- Login into the system by username and password that created by training staff
- View personal profile
- View course that trainee is enrolled
- View topics which assigned to the course that trainee is enrolled

Figure 1 *The detailed feature of four roles in the FPT Co. Training Web- application.*

1.3 Intended Audience and Document Overview

The intended audience of this document is individuals directly involved in the development FPT Co. Training Web- application. All major stakeholders which include the development team, the project owner, the project customer, the senior project advisor (Mr. Hoang Nhu Vinh), and anyone who evaluating the project. This document need not be read sequentially, the users are encouraged to jump to any section that they find relevant.

A brief overview of each part of the document that provided below to help the intended audience find the part that they need.

> **Part 1**- Introduction
> This section included six small part that identify the purpose of SRS documentation, as well as, describe the scope of the product that is covered. In addition, provided a short description of FPT Co. Training Web- application and its purpose, including relevant, objectives, benefits and goals. In the content of this section, it also identifies the intended audiences and suggested the reading order for the audience; besides, the definitions, acronyms and abbreviations; major document conventions and references are also provided adequate.

> **Part 2**- Overall Description
> The main content of this section is described the context and origin of FPT Co. Training Web- application, as well as, shown a simply diagram that presented the main part of the system. In addition, it also contains a summary about the main features of the system through the list that provided; the descriptions about the problem that will limit the option available to the developers, and provided a list any assumed factors that could affect the requirement states in the SRS.

> **Part 3**- Specific Requirements
> Readers interested in how FPT Co. Training Web-application organizes and handles data should consult this section, which cover data structures and flow patterns utilized by the system through the analytic model, such as, use case diagram, entity relationship diagram, data flow diagram, as well as, use case specification.
> Moreover, this section covers all of the details related to the structure of the graphical user interface, including some preliminary mockup screen of FPT Co. Training Web- application. Readers can view this section for a tentative glimpse of what the final product will look like.

> **Part 4**- Other Non- functional Requirements
> This sections including description about performance requirements for the FPT Co. Training Web- application under various features or functionals; identify the timing relationships for real system. Besides, its contain a list of requirements that are connected with possible loss or ham that could result form the use of system, and safety certifications that must be satisfied , as well as, give safeguards or actions that must be taken, also actions that must be prevented, and description about some additional quality characteristics for the system.

> **Part 5**- Other Requirements
> This section including the description about some other requirements not covered elsewhere in the SRS.

1.4 Definitions, Acronyms and Abbreviations

#	Abbreviations/ Terms	Explanation
1	SRS	Software Requirement Specification
2	SC	Screen
3	UC	Use Case
4	C.R.U.D	Create/ Read/ Update/ Delete a record in database
5	PF	Product Feature
6	CO	Constraints
7	AS	Assumption

8	DE	Dependencies
9	UI	User Interfaces
10	SI	Software Interfaces
11	CI	Communication Interfaces
12	PE	Performance Requirement
13	SE	Security Requirement

Table 1 Definitions, Acronyms and Abbreviations table.

1.5   Document Conventions

This document follows the IEEE formatting requirements. Use Time New Roman font size 11 throughout the document for text. Use italics for comments. Document text should be single spaced. For *Section* and *Subsection* titles that follow the template SRS- (Nang, n.d.).

1.6   References and Acknowledgments

#	Name	Description
1	Software Requirements Specification Template	A template that document followed
2		

Table 2 References and Acknowledgment table.

2 Overall Descriptions

2.1 Product Overview

FPT. Co Training Web- applications is a new system that to build the continuing study environment throughout the corporation for manages the activity of "Training" for internal training program of the company. The context diagram in **Figure 2** illustrate the external entities and system interfaces.
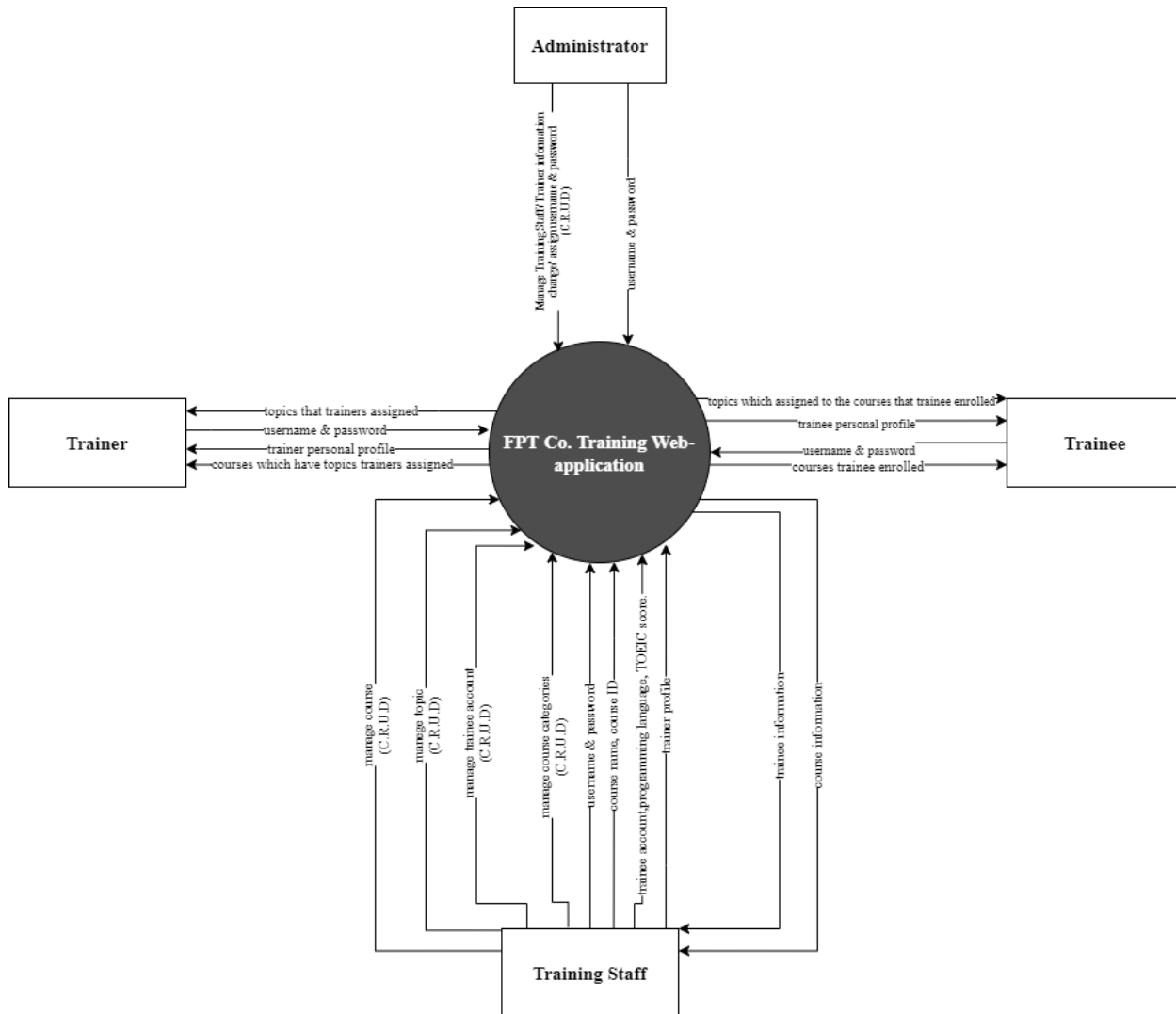
Figure 2 Context diagram for FPT Co. Training Web- application.

2.2 Product Functionality

FPT Co. Training Web-application provides users the following functions/ features based on the right of each users that identified such as **Figure 2**.

User types	Product Functionality
General functions	• **PF-1**: Log as identified accounts (depends on the type of accounts, each account has the clearly appropriate user rights). • **PF-2**: Log out
Administrator	• **PF-3**: Manage Training Staff accounts (C.R.U.D) • **PF-4**: Manage Trainer accounts (C.R.U.D)
	• **PF-5**: Manage Trainees accounts (C.R.U.D)

Training Staff	• **PF-6**: Search by trainee account, programming language, TOEIC score. • **PF-7**: Manage course categories (C.R.U.D) • **PF-8**: Manage course (C.R.U.D) • **PF-9**: Search by course name, course ID • **PF-10**: Manage topics (C.R.U.D) • **PF-11**: Edit Trainer profile • **PF-12**: Assign topic into a course • **PF-13**: Assign course into category • **PF-14**: Assign trainer to a topic • **PF-15**: Assign trainees to a course
Trainer	• **PF-16**: View trainer personal profile • **PF-17**: View topics that trainer is assigned • **PF-18**: View course which have a topic trainer is assigned
Trainee	• **PF-19**: View trainee personal profile • **PF-20**: View course that trainee is enrolled • **PF-21**: View topics which assigned to course that trainee is enrolled

Table 3 FPT Co. Training Web-application functionality.

2.3 Design and Implementation Constraints

The challenge in developing the products are shown as the following table.

Design and Implementation Constraints ID	Descriptions
CO-1	The database needs to be available to internal sources for queries. The customer would like the database to be able to be easily modified in the future for other teams to upgrade the system or do work on it.
CO-2	Features need to be supportable in a web-application, security features, and security the design must address this reliance on the web.

Table 4 Design and Implement Constraints of FPT Co. Trainging Web-application.

2.4 Assumptions and Dependencies

Assumptions and Dependencies ID	Description
AS-1	Users have a given account can login
DE-1	Using MS-SQL depends upon a Microsoft Windows operating system.
DE-2	Free Microsoftaccount
DE-3	Free Azure account

Table 5 Assumptions and Dependencies

3 Specific Requirements

3.1 Products Perpective

This application operates independently, shall offer a unified place for the staffs, trainers, and trainees of the FPT Co. to search, manage people and their permission, including support for manage trainee accounts, manage trainers, manage course categories, manage courses, manage topics, assign topic to course, assign a trainer to a topic, assign trainee to course.

3.2 Actors and Use Cases Descriptions

3.2.1 Use cases

3.2.1.1 Use case Administrator Role
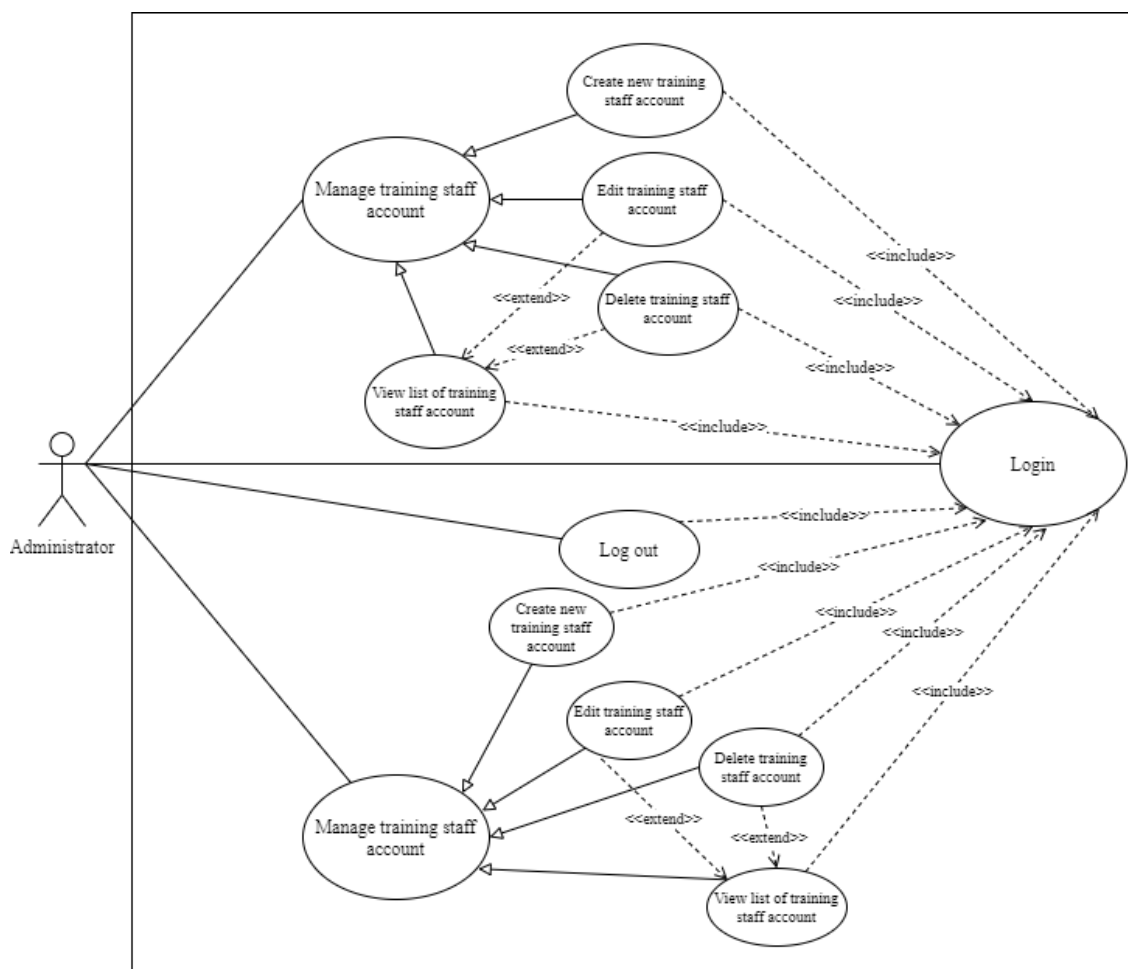
Figure 3 Use case Administrator role.

3.2.1.2 Use case Training Staff role
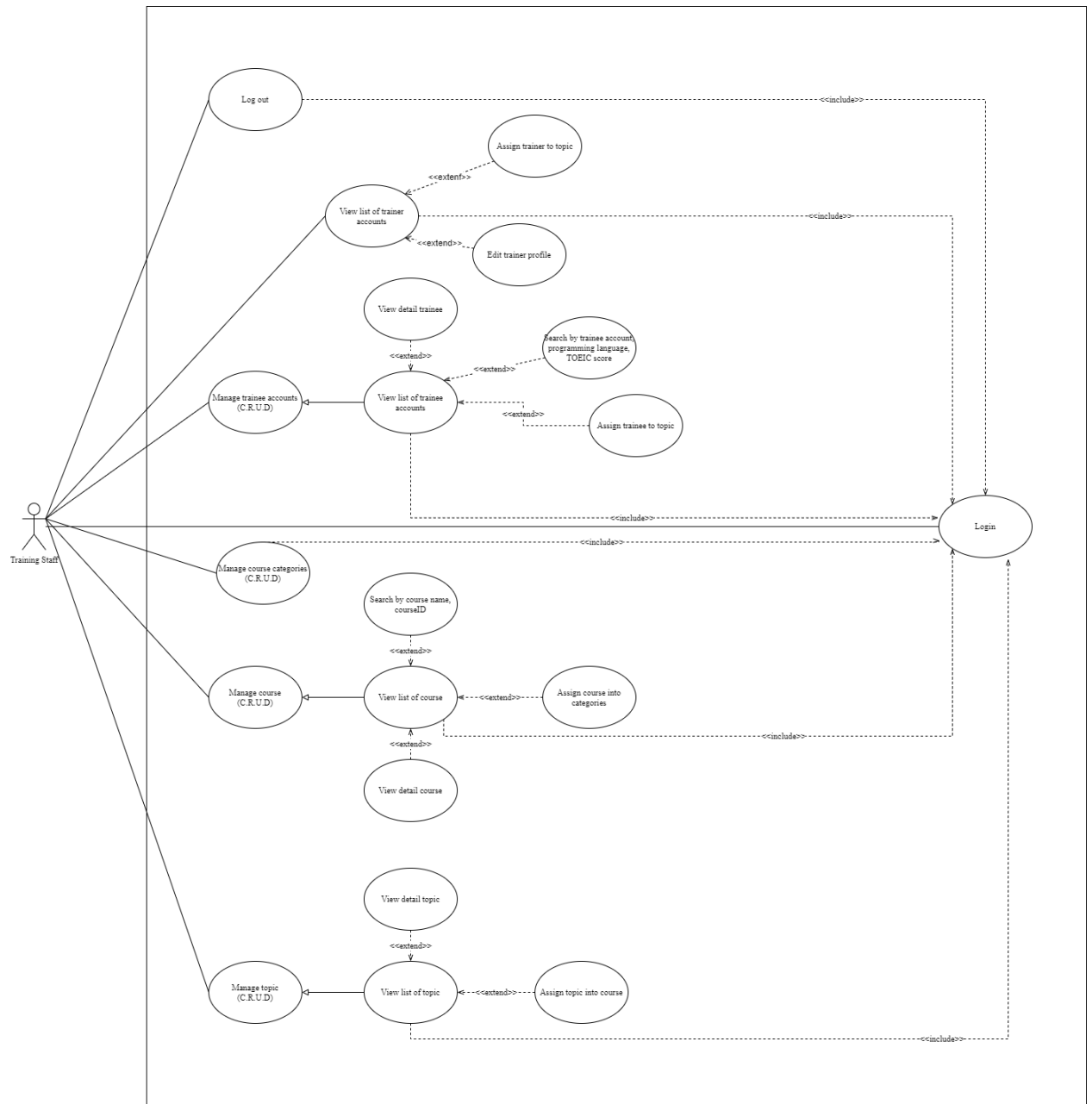
Figure 4 *Use case Training Staff role.*

3.2.1.3 Use case Trainer role
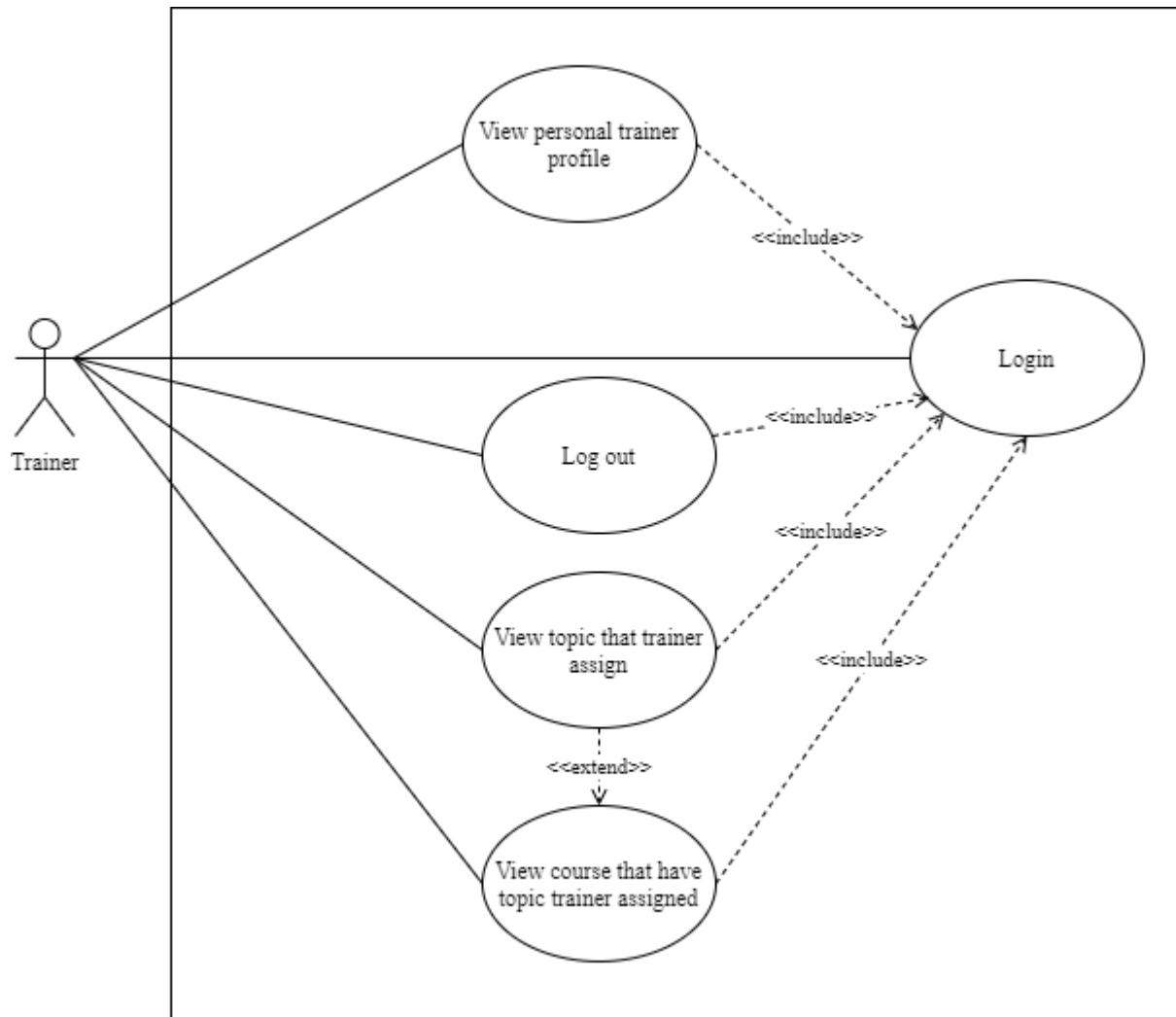
Figure 5 *Use case Trainer role.*

Figure 6 Use case Trainee role.

3.2.2   Brief Description

FPT Co. Training Web-application use case permits the company to manage the training activities throughout the corporation.

3.2.3   Actor Descriptions

#	Actor Name	Definition & Interest
1	Administrator	The administartor is the person who will have the right of training staff and trainer accounts.
2	Training Staff	The training staff is the person or department that will run training activities by schedules, arrange training program such as course, topic, trainer, trainee suitable for each course category, also they have the right to manage the accounts of trainee. With trainer, they just have right to update/ edit trainer profile.
3	Trainer	The trainer is the person who teaches skills or knowledge to the trainees. They run training sessions, observe teaching and give feedback based on lab and assignment.They will use this system to view and track their schedule work.
4	Trainee	The trainee is the person who taking part in a trainee program within the education FPT Co. They will use this system to view and track

		their study program.	

3.2.4   *Use case Description*

#	Code	Name	Brief Description
1	UC01	Login	Permit actor login into the system.
2	UC02	Log out	Permit actor log out from the system.
3	UC03	Validation user AD	Permit to define access permission compared to AD system.
4	UC04	Check account AD/ Training staff/ trainer /trainee	Permit actor to define access permission compared with the AD/ Training Staff or Trainer, trainee system.
5	UC05	View details Training Staff/ trainer accounts	Permit the actor to view the details information of user.
6	UC06	View list of training staff/ trainer account	Permit the actor to view a list of training staff/ trainer accounts
7	UC07	Add new training staff/ trainer accounts	Permit the actor to create a new account.
8	UC08	Check user AD	Permit to define users compared to AD system .
9	UC09	Edit/ Update training staff accounts	Permit the actor to update or edit a training staff information.
10	UC10	Check user AD or Training staff	Permit to define users compared to Ad system or Training staff
11	UC11	Edit/ Update trainer accounts	Permit the actor to update or edit the trainer information.
12	UC12	Delete training staff/ trainer account	Permit the actor to remove or delete a account form the system.
13	UC13	Check account Training Staff	Permit actor to define access permission compared with the Training Staff system.
14	UC14	Assign a Trainer to the Topic	Permit actor to add a existed trainer to a topic
15	UC15	View list of trainees	Permit the actor to view a list of trainee accounts
16	UC16	Check account Training Staff or trainer	Permit actor to define access permission compared with the Training Staff or trainer system.
17	UC17	View details trainees	Permit the actor to view a trainees details information.
18	UC18	Add new trainee	Permit the actor to create a new trainee.
19	UC19	Check account Training Staff	Permit to define access permission compared with the Training Staff system.
20	UC20	Edit/ Update trainee	Permit the actor to update or edit the trainees information.
21	UC21	Delete trainee	Permit the actor to delete or remove a exist trainee from the system.
22	UC22	Check account Training Staff	Permit actor to define access permission compared with the Training Staff system.

23	UC23	Assign a Trainee to the Course	Permit actor to add a existed trainee to a course
24	UC24	View details category	Permit the actor to view a category details information.
25	UC25	Add new category	Permit the actor to create a new category.
26	UC26	Check account Training Staff	Permit to define access permission compared with the Training Staff system.
27	UC27	Edit/ Update category	Permit the actor to update or edit the category information.
28	UC28	Delete category	Permit the actor to delete or remove a exist category from the system.
29	UC29	Check account Training Staff / Trainer/ Trainee	Permit actor to define access permission compared with the Training Staff / Trainer or Trainee system.
30	UC30	View details course	Permit the actor to view a course details information.
31	UC31	Check account Training Staff	Permit actor to define access permission compared with the Training Staff system.
32	UC32	View list of course	Permit the actor to view list of courses.
33	UC33	Add new course	Permit the actor to create a new course.
34	UC34	Check account Training Staff	Permit to define access permission compared with the Training Staff system.
35	UC35	Edit/ Update course	Permit the actor to update or edit the course information.
36	UC36	Delete course	Permit the actor to delete or remove a exist course from the system.
37	UC37	Check account Training Staff	Permit actor to define access permission compared with the Training Staff system.
38	UC38	Assign a Course to the Category	Permit actor to add a existed course to a category
39	UC39	Check account Training Staff / Trainer/ Trainee	Permit actor to define access permission compared with the Training Staff / Trainer or Trainee system.
40	UC40	View details topic	Permit the actor to view a topic details information.
41	UC41	Check account Training Staff	Permit actor to define access permission compared with the Training Staff system.
42	UC42	View list of topics	Permit the actor to view list of topic
43	UC43	Add new topic	Permit the actor to create a new topic.
44	UC44	Check account Training Staff	Permit to define access permission compared with the Training Staff system.

45	**UC45**	Edit/ Update topic	Permit the actor to update or edit the topic information.
46	**UC46**	Delete topic	Permit the actor to delete or remove a exist topic from the system.
47	**UC47**	Check account Training Staff	Permit actor to define access permission compared with the Training Staff system.
48	**UC48**	Assign a Topic to the Course	Permit actor to add a existed topic to a course

Table 6 Use case description.

3.2.5 Use case & Actore mapping

Use Case \ Actor	Admin	Training Staff	Trainer	Trainee
UC01: Login	x	x	x	x
UC02: Log out	x	x	x	x
UC05: View details Training Staff/ trainer accounts	x			
UC06: View list of training staff/ trainer account				
UC07: Add new training staff/ trainer accounts	x			
UC09: Edit/ Update training staff accounts	x			
UC11: Edit/ Update trainer accounts	x	x		
UC12: Delete training staff/ trainer account	x			
		x		
UC14: Assign a Trainer to the Topic		x		
UC15: View list of trainees		x		
UC17: View details trainees		x		
UC18: Add new trainee		x		
UC20: Edit/ Update trainee		x		
UC21: Delete trainee		x		
UC23: Assign a Trainee to the Course		x		
UC24: View details category		x		
UC25: Add new category		x		
UC27: Edit/ Update category		x		
UC28: Delete category		x		
UC30: View details course		x	x	x
UC32: View list of course		x		
UC33: Add new course		x		
UC35: Edit/ Update course		x		
UC36: Delete course		x		

UC38: Assign a Course to the Category		x		
UC40: View details topic		x	x	x
UC42: View list of topics		x		
UC43: Add new topic		x		
UC45: Edit/ Update topic		x		
UC46: Delete topic		x		
UC48: Assign a Topic to the Course		x		

3.2.6   Use case Specification
3.2.6.1   UC01: Login

Use Case Description

Name	Login	Code	UC01
Description	Permit actor log into the system		
Actor	Administrator/ Training Staff/ Trainer/ Trainee	**Trigger**	Actors press Login button
Pre-condition			
Post condition	Turn to the Homepage		

Activities

	Actor		System
Main Flow: Login successful			
1	Actor enter your username / password and click the Login button on the homepage.		
		2	Check that the username / password is correct then go to the corresponding default role page

Business Rules

Rule No.	Rule	Description

System Message

MS01	"Your Username and / or Password are incorrect. Please check and try again. "
	The message notifies when the actor entered the wrong username / password

3.2.6.2 UC02: Log out

Use Case Description

Name	Log out	Code	UC02
Description	Permit actor log out from the system.		
Actor	Administrator/ Training Staff/ Trainer/ Trainee	**Trigger**	Actors press Log out link
Pre-condition			
Post condition	Turn to the Homepage		

Activities

	Actor		System
Main Flow: Log out successful			
1	Actor click the Log out link on the bar which on top in the Homepage		
		2	Return to Homepage

Business Rules

Rule No.	Rule	Description

System Message

3.2.6.3 UC05: View detail training staff/ trainer account

Use Case Description

Name	View detail training staff/ trainer account	Code	UC05
Description	Permit actor to view details of a training staff/ trainer account.		
Actor	Administrator With trainer role, they only can see their personal profile.	**Trigger**	Actor click on the link [Details] .

Pre-condition	Actor has logged into the system.
Post condition	Successfully view detail training staff/ trainer account

Activities

Actor		System	
Main Flow: View details training staff/ trainer account successfully			
1	From the user information management page, the actor clicks on the [accountname] link.		
		2	Load user information on the User Information page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.4   UC06: View list of training staff/ trainer accounts

Use Case Description

Name	View list of training staff/ trainer accounts	Code	UC06
Description	Permit actor to view list of training staff/ trainer account.		
Actor	Administrator	**Trigger**	Actor click on the link [Trainer] or [Training Staff] on the bar.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully view list of training staff/ trainer account		

Activities

Actor		System	
Main Flow: View list of training staff/ trainer accounts successfully			
1	From the user information management page, the actor clicks on		

		2	Load list of trainer/ training staff on the Trainer/ Training Staff page and display.
	the [Trainer] or [Training Staff] link.		

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.5   UC07: Add new training staff/ trainer account

Use Case Description

Name	Add new training staff/ trainer account	Code	UC07
Description	Permit actor to add a new trainer/ training staff account		
Actor	Administrator	Trigger	Actor click the [Register] link on the bar.
Pre-condition	Actor has logged into the system.		
Post condition	Add new training staff/ trainer account successfully.		

Activities

Actor		System	
Main Flow: Add new training staff/ trainer account successfully			
1	From the any screen, the actor selects the [Register] link.		
		2	Load page Add new user information
3	Enter the required information.		
		4	Validation of information entered.
5	Correct incorrect information (if the validation system is not correct).		
		6	Save new user information in the database, notify successfull

Business Rules

Rule No.	Rule	Description

System Message

3.2.6.6 UC09: Edit/ update training staff account

Use Case Description

Name	Edit/ update training staff account	Code	UC09
Description	Permit actor updates information of a training staff acount		
Actor	Administrator	Trigger	The actor click link [Edit]
Pre-condition	Actor has logged into the system.		
Post condition	Edit training staff account successfully.		

Activities

	Actor		System
Main Flow: Edit training staff account successfully			
1	From the Training staff screen, actor click on the [Edit] link		
		2	Load user information on the Training staff Information page and display.
3	Update the necessary information and press the button Save button		
		3	Validation of information entered.
4	Correct the input if the validation is not correct		
		5	Edit information on the user to the database, notify it successfully

Business Rule

Rule No.	Rule	Description

System Messages

N/A

3.2.6.7 UC11: Edit/ update trainer account

Use Case Description

Name	Edit/ update trainer account	Code	UC11
Description	Permit actor updates information of a trainer acount		
Actor	Administrator or Training staff	Trigger	The actor click link [Edit]
Pre-condition	Actor has logged into the system.		
Post condition	Edit trainer account successfully.		

Activities

	Actor		System
Main Flow: Edit trainer account successfully			
1	From the Trainer screen, actor click on the [Edit] link		
		2	Load user information on the Trainer Information page and display.
3	Update the necessary information and press the button Save button		
		3	Validation of information entered.
4	Correct the input if the validation is not correct		
		5	Edit information on the user to the database, notify it successfully

Business Rule

Rule No.	Rule	Description

System Messages

N/A

3.2.6.8 UC12: Delete training staff/ trainer account

Use Case Description

Name	Delete training staff/ trainer account	Code	UC12
Description	Permit actor delete training staff/ trainer account		
Actor	Administrator	**Trigger**	Actor click link **[Delete]**
Pre-condition	Actor has logged into the system.		
Post condition	Delete training staff/ trainer account successfully		

Activities

Actor		System	
Main Flow: Delete training staff/ trainer account successfully			
1	From the Training staff/ Trainer screen, click the [Delete] link		
		2	Delete the user information from the database, successfully notify and return to the user management page

Business Rules

Rule No.	Rule	Description

System Message

N/A

3.2.6.9 UC14: Assign trainer to a topic

Use Case Description

Name	Assign trainer to a topic	Code	UC14
Description	Permit actor to assign a Trainer into a Topic		
Actor	Training Staff	**Trigger**	Actor click on the [Topicname] link
Pre-condition	Actor has logged into the system.		
Post condition	Successfully assign trainer to a topic		

Activities

Actor		System	
Main Flow: Assign trainer to a topic successfully			
1	From the Topic page, the actor clicks on the [topicname] link.		
		2	Load topic information on the Topic Information page and display.
3	Update the ID trainer in the TrainerID box		
		4	Validation of information entered
5	Correct the input if the validation is not correct		
		6	The information of topics will edit in the database, notify successful.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.10 UC15: View list of trainee

Use Case Description

Name	View list of trainee accounts	Code	UC15
Description	Permit actor to view list of trainee account.		
Actor	Training staff	**Trigger**	Actor click on the link [Trainee] on the bar.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully view list of trainee accounts		

Activities

Actor	System

Main Flow: View list of trainee accounts successfully			
1	From the user information management page, the actor clicks on the [Trainee] link.		
		2	Load list of trainee on the Trainee page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.11 UC17: View details trainee

Use Case Description

Name	View details trainee	Code	UC17
Description	Permit actor to view details of a trainee		
Actor	Training Staff/ Trainee	Trigger	Actor click on the link [Details] of a user.
Pre-condition	Actor has logged into the system. If actor is Trainees, they only view their profile information.		
Post condition	Successfully view trainees details		

Activities

Actor		System	
Main Flow: View details trainee successfully			
1	From the Trainee page, the actor clicks on the [Details] link.		
		2	Load trainee informations on the Trainee Information page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.12   UC18: Add new trainee accounts

Use Case Description

Name	Add new trainee account	Code	UC18
Description	Permit actor to add a new trainees		
Actor	Training Staff	Trigger	Actor click the [Register] link on the bar in the Trainee screen.
Pre-condition	Actor has logged into the system.		
Post condition	Add new trainee account successfully.		

Activities

Actor		System	
Main Flow: Add new trainee account successfully			
1	From the Trainee screen, the actor selects the [Register] link.		
		2	Load page Add new trainee information
3	Enter the required information.		
		4	Validation of information entered.
5	Correct incorrect information (if the validation system is not correct).		
		6	Save new trainee information in the database, notify successfull

Business Rules

Rule No.	Rule	Description

System Message

3.2.6.13 UC20: Edit/ update trainee account

Use Case Description

Name	Edit/ update trainee account	Code	UC20
Description	Permit actor updates information of an trainee		
Actor	Training Staff	Trigger	The actor click link [Edit]
Pre-condition	Actor has logged into the system.		
Post condition	Edit trainee informations successfully.		

Activities

	Actor		System
Main Flow: Edit trainee informations successfully			
1	From the Trainee screen, actor click on the [Edit] link		
		2	Load trainee information on the Trainee Information page and display.
3	Update the necessary information and press the link [Save]		
		4	Validation of information entered.
5	Correct the input if the validation is not correct		
		6	Edit information on the trainee to the database, notify it successfully

Business Rule

Rule No.	Rule	Description

System Messages

N/A

3.2.6.14 UC21: Delete trainee account

Use Case Description

Name	Delete trainee account	Code	UC21

Description	Permit actor delete an trainee account		
Actor	Training Staff	**Trigger**	Actor click link **[Delete]**
Pre-condition	Actor has logged into the system.		
Post condition	Delete trainee account successfully		

Activities

Actor		System	
Main Flow: Delete Trainee account successfully			
1	From the Trainee screen ,click the [Delete] link		
		2	Delete the trainee information from the database, successfully notify and return to the Trainee page

Business Rules

Rule No.	Rule	Description

System Message

N/A

3.2.6.15 UC23: Assign a trainee to course

Use Case Description

Name	Assign a trainee to course	Code	UC23
Description	Permit actor to assign a Trainee into a Course		
Actor	Training Staff	**Trigger**	Actor click on the link [Details] of a trainee.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully assign a trainee to course		

Activities

Actor	System
Main Flow: Assign a trainee to course successfully	

1	From the Trainee page, the actor clicks on the [Details] link.		
		2	Load trainee information on the trainee information page and display.
3	Update the course id in the Course ID box		
		4	Validation of information entered
5	Correct the input if the validation is not correct		
		6	The information of trainees will edit in the database, notify successful.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.16 UC24: View details course categories

Use Case Description

Name	View details course categories	Code	UC24
Description	Permit actor to view details of a course category		
Actor	Training Staff	Trigger	Actor click on the link [Details] of a course category.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully view detail of a course category		

Activities

Actor		System	
Main Flow: View details a category successfully			
1	From the category information management page, the actor clicks on the [Details] link.		

		2	Load category information on the Course Information page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.17 UC25: Add new course category

Use Case Description

Name	Add new course category	Code	UC25
Description	Permit actor to add a new category		
Actor	Training Staff	Trigger	Actor click the [Create] link on the Course category screen.
Pre-condition	Actor has logged into the system.		
Post condition	Add a new course category successfully.		

Activities

Actor		System	
Main Flow: Add a new category successfully			
1	From the Course category screen, the actor selects the [Create] link.		
		2	Load page Add new course category information
3	Enter the required information.		
		4	Validation of information entered.
5	Correct incorrect information (if the validation system is not correct).		
		6	Save new course category information in the database, notify successfull

Business Rules

Rule No.	Rule	Description

System Message

3.2.6.18 UC27: Edit/ Update course category

Use Case Description

Name	Edit/ update course category	Code	UC27
Description	Permit actor updates information of a course category		
Actor	Training Staff	Trigger	The actor click link [Edit]
Pre-condition	Actor has logged into the system.		
Post condition	Edit a course category successfully.		

Activities

Actor		System	
Main Flow: Edit category successfully			
1	From the Course category screen, actor click on the [Edit] link		
		2	Load category information on the Course category Information page and display.
3	Update the necessary information and press the link [Save]		
		4	Validation of information entered.
5	Correct the input if the validation is not correct		
		6	Edit information on the category to the database, notify it successfully

Business Rule

Rule No.	Rule	Description

System Messages

N/A

3.2.6.19 UC28: Delete course category

Use Case Description

Name	Delete a course category	Code	UC28
Description	Permit actor to remove a course category.		
Actor	Training Staff	Trigger	Actor click on the link [Delete] of a category..
Pre-condition	Actor has logged into the system.		
Post condition	Successfully delete a course category.		

Activities

Actor		System	
Main Flow: Delete a course category successfully			
1	From the Course category page, the actor clicks on the [Delete] link.		
		2	Delete the course category information from the database, successfully notify and return to the Course category page

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.20 UC30: View detail course

Use Case Description

Name	View details of a course	Code	UC30
Description	Permit actor to view details information of a course.		
Actor	Training Staff/ Trainer/ Trainee	Trigger	Actor click on the link [Details] of a

		course.
Pre-condition	Actor has logged into the system. • With Trainer role, they only see the course that cotained the topic trainer is assigned • Whit Trainee role, they only see the course that they is enrolled	
Post condition	Successfully view course details	

Activities

Actor		System	
Main Flow: View details course successfully			
1	From the Course page, the actor clicks on the [Details] link.		
		2	Load course information on the Course informations page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.21 UC32: View list of courses

Use Case Description

Name	View list of courses	**Code**	UC32
Description	Permit actor to view list of courses.		
Actor	Training staff	**Trigger**	Actor click on the link [Course] on the bar.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully view list of courses.		

Activities

Actor	System

Main Flow: View list of courses successfully			
1	From the Homepage page, the actor clicks on the [Courses] link.		
		2	Load list of trainee on the Courses page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.22 UC33: Add new course

Use Case Description

Name	Add new course	Code	UC33
Description	Permit actor to add a new course.		
Actor	Training Staff	Trigger	Actor click the [Create] link on the Course screen.
Pre-condition	Actor has logged into the system.		
Post condition	Add new course successfully.		

Activities

Actor		System	
Main Flow: Add new course successfully			
1	From the course screen, the actor selects the [Create] link.		
		2	Load page Add new course information
3	Enter the required information.		
		4	Validation of information entered.
5	Correct incorrect information (if the validation system is not correct).		
		6	Save new course information in the database,

			notify successfull

Business Rules

Rule No.	Rule	Description

System Message

3.2.6.23 UC35: Edit/ update course

Use Case Description

Name	Edit/ update course	Code	UC35
Description	Permit actor updates information of a course		
Actor	Training Staff	Trigger	The actor click link [Edit]
Pre-condition	Actor has logged into the system.		
Post condition	Edit course successfully.		

Activities

Actor		System	
Main Flow: Edit/ update information of a course successfully			
1	From the Course screen, actor click on the [Edit] link		
		2	Load course information on the Course Information page and display.
3	Update the necessary information and press the link [Save]		
		4	Validation of information entered.
5	Correct the input if the validation is not correct		
		6	Edit information on the course to the database, notify it successfully

Business Rule

Rule No.	Rule	Description

System Messages

N/A

3.2.6.24 UC36: Delete course

Use Case Description

Name	Delete a course	Code	UC36
Description	Permit actor to remove a course from the system.		
Actor	Training Staff	Trigger	Actor click on the link [Delete] of a course.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully delete a course		

Activities

Actor		System	
Main Flow: Delete a course successfully			
1	From the Course page, the actor clicks on the [Delete] link.		
		2	Delete the course information from the database, successfully notify and return to the Course page

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.25 UC38: Assign a course to the course category

Use Case Description

Name	Assign a coourse to the course	Code	UC38

	category		
Description	Permit actor to assign a course to category		
Actor	Training Staff	**Trigger**	Actor click on the link [Details]of a course
Pre-condition	Actor has logged into the system.		
Post condition	Successfully assign a course to the course category.		

Activities

Actor		System	
Main Flow: Assign a course to the course category successfully			
1	From the Course page, the actor clicks on the [Details] link.		
		2	Load course information on the course information page and display.
3	Update the category id in the Category ID box		
		4	Validation of information entered
5	Correct the input if the validation is not correct		
		6	The information of course will edit in the database, notify successful.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.26 UC40: View details topic

Use Case Description

Name	View details topics	**Code**	UC40
Description	Permit actor to view detail informations of a topics		

Actor	• Training Staff	Trigger	Actor click on the link [Details] of a course.
Pre-condition	Actor has logged into the system. With Trainer permission, they only can see the topic that they are assigned to. With Trainee permission, they only can see the topic which have in a course that they are assigned to.		
Post condition	Successfully view detail informations of a topic		

Activities

	Actor		System
Main Flow: View details topic successfully			
1	From the Topic page, the actor clicks on the [Details] link.		
		2	Load topic information on the Topic Information page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.27 UC42: View list of topic

Use Case Description

Name	View list of topics	Code	UC42
Description	Permit actor to view list of topics.		
Actor	Training staff	**Trigger**	Actor click on the link [Topic] on the bar.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully view list of topics.		

Activities

Actor	System

Main Flow: View list of topics successfully			
1	From the Homepage, the actor clicks on the [Topic] link.		
		2	Load list of topics on the Topic page and display.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.28 UC43: Add new topic

Use Case Description

Name	Add a new topic	Code	UC43
Description	Permit actor to add a new topic.		
Actor	Training Staff	Trigger	Actor click the [Create] link on the Topic screen.
Pre-condition	Actor has logged into the system.		
Post condition	Add a new topic successfully.		

Activities

Actor		System	
Main Flow: Add a new topic successfully			
1	From the Topic screen, the actor selects the [Create] link.		
		2	Load page Add new topics information
3	Enter the required information.		
		4	Validation of information entered.
5	Correct incorrect information (if the validation system is not correct).		
		6	Save new topic information in the database,

			notify successfull

Business Rules

Rule No.	Rule	Description

System Message

3.2.6.29 UC45: Edit/ update topic

Use Case Description

Name	Edit topic	Code	UC45
Description	Permit actor updates information of a topic		
Actor	Training Staff	Trigger	The actor click link [Edit]
Pre-condition	Actor has logged into the system.		
Post condition	Edit topic successfully.		

Activities

Actor		System	
Main Flow: Edit/ update information of a topic successfully			
1	From the Topic screen, actor click on the [Edit] link		
		2	Load topic information on the Topic Information page and display.
3	Update the necessary information and press the link [Save]		
		4	Validation of information entered.
5	Correct the input if the validation is not correct		
		6	Edit information on the topic to the database, notify it successfully

Business Rule

Rule No.	Rule	Description

System Messages

N/A

3.2.6.30 UC46: Delete topic

Use Case Description

Name	Delete topic	Code	UC46
Description	Permit actor to remove a topic from the system		
Actor	Training Staff	Trigger	Actor click on the link [Delete] of a topic.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully delete a topic		

Activities

Actor		System	
Main Flow: Delete a topic successfully			
1	From the Topic page, the actor clicks on the [Delete] link.		
		2	Delete the topic information from the database, successfully notify and return to the Topic page

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.2.6.31 UC48: Assign a topic to the course

Use Case Description

Name	Assign a topic to course	Code	UC48

Description	Permit actor to assign a topic to course		
Actor	Training Staff	Trigger	Actor click on the link [Details]of a topic.
Pre-condition	Actor has logged into the system.		
Post condition	Successfully assign a topic to course.		

Activities

Actor		System	
Main Flow: Assign a topic to course successfully			
1	From the Topic page, the actor clicks on the [Details] link.		
		2	Load topic information on the course information page and display.
3	Update the course id in the Course ID box		
		4	Validation of information entered
5	Correct the input if the validation is not correct		
		6	The information of topic will edit in the database, notify successful.

Business Rules

Rule No.	Rule	Description

System Management

N/A

3.3   Entity Relationship Diagram
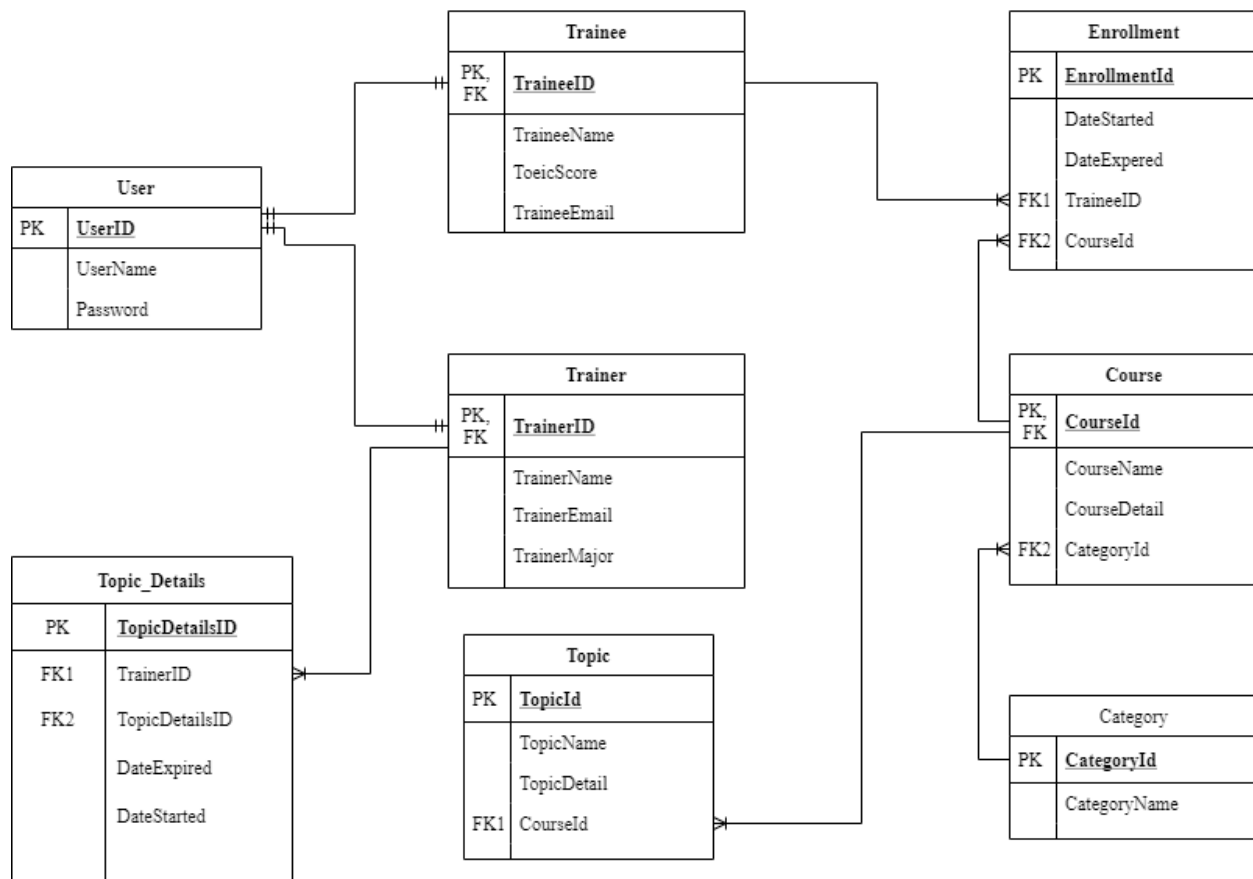
Figure 7 Entity Relationship Diagram of FPT Co. Training Web- application.

3.4   Data Flow Diagram

3.4.1   Data flow diagram for Administrator role

With administrator role, they have the right to manage training staff and trainer accounts that shown as **Figure 8**.
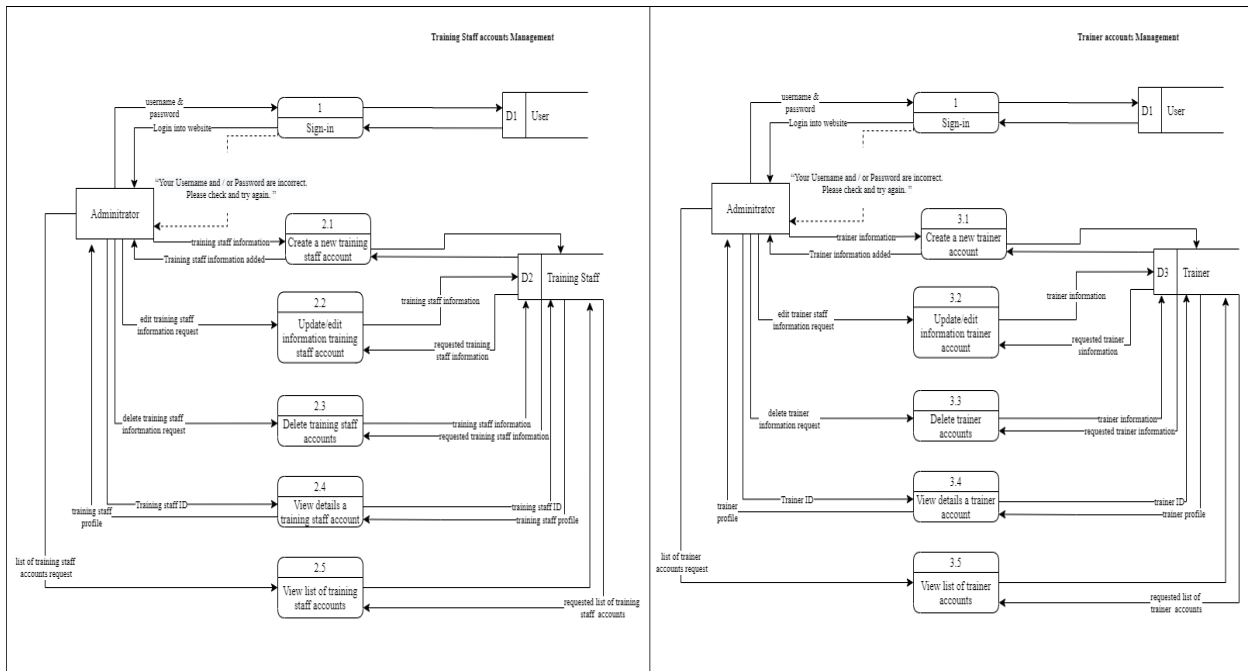
Figure 8 *Data flow diagram for administrator role.*

3.4.2 *Data flow diagram for training staff role*

For training staff role, their right devided into four module, included, trainee management & edit trainer profile, category management, courses management, topic management- that shown as Figure 9.
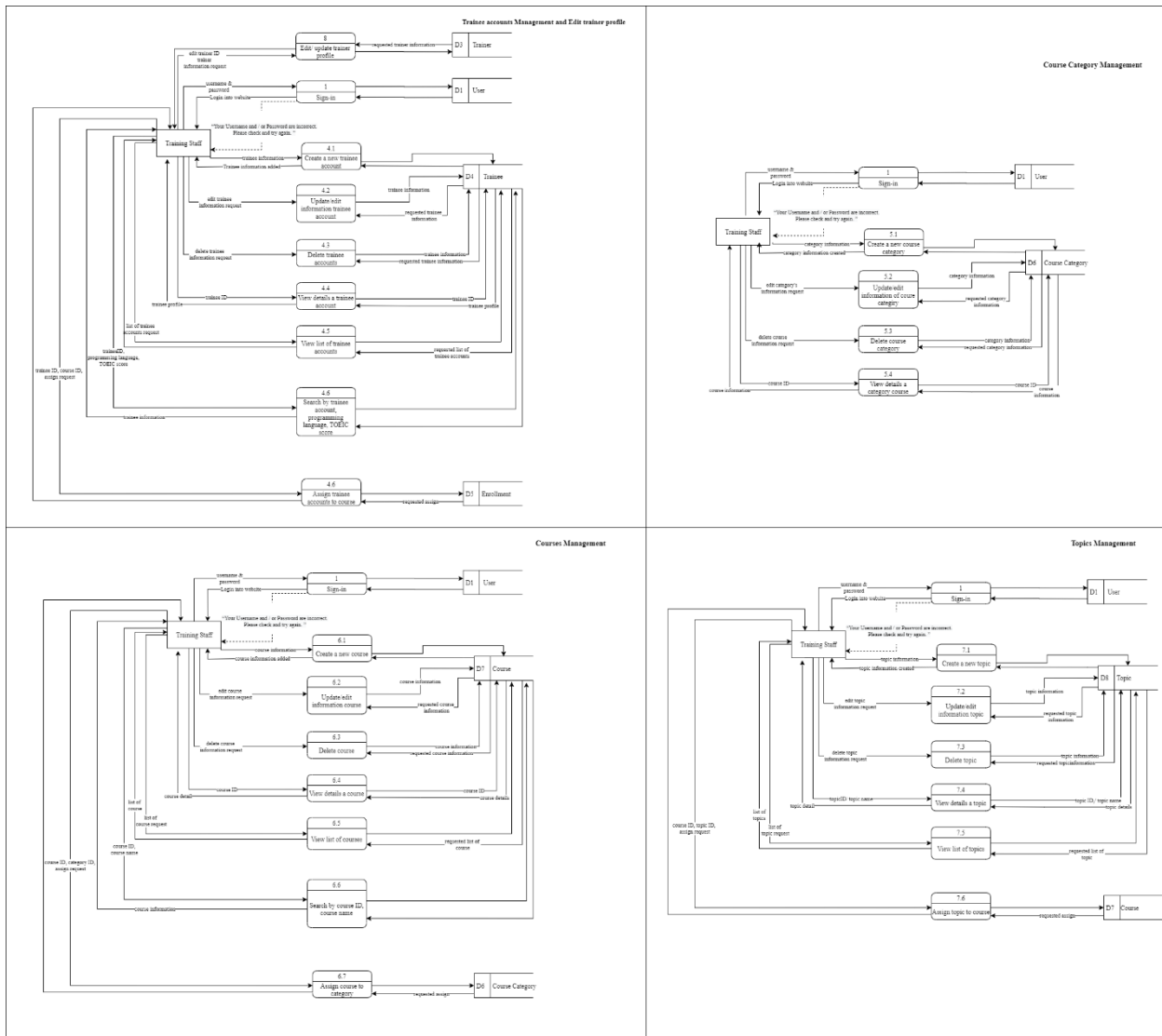
Figure 9 Data flow diagram for training staff role.

3.4.3 Data flow diagram for trainer role

Trainer Data Flow Diagram
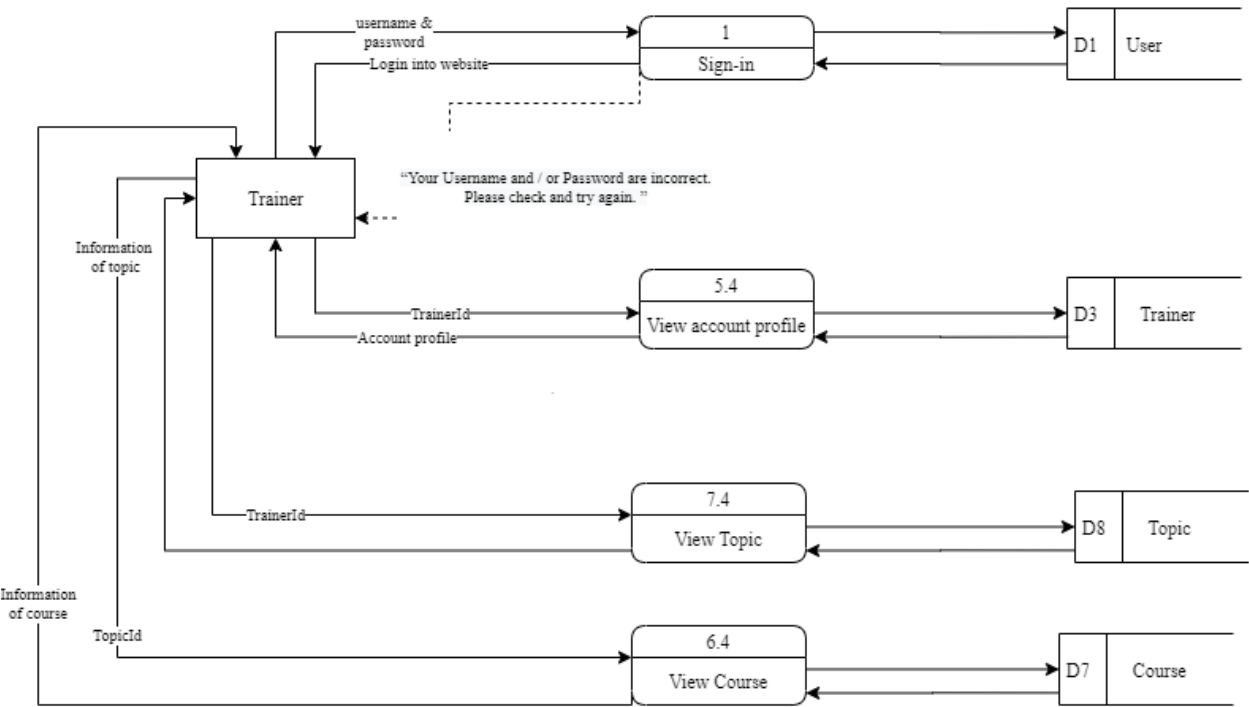
Figure 10 Data flow diagram for trainer role.

3.4.4 Data flow diagram for trainee role

Trainee Data Flow Diagram
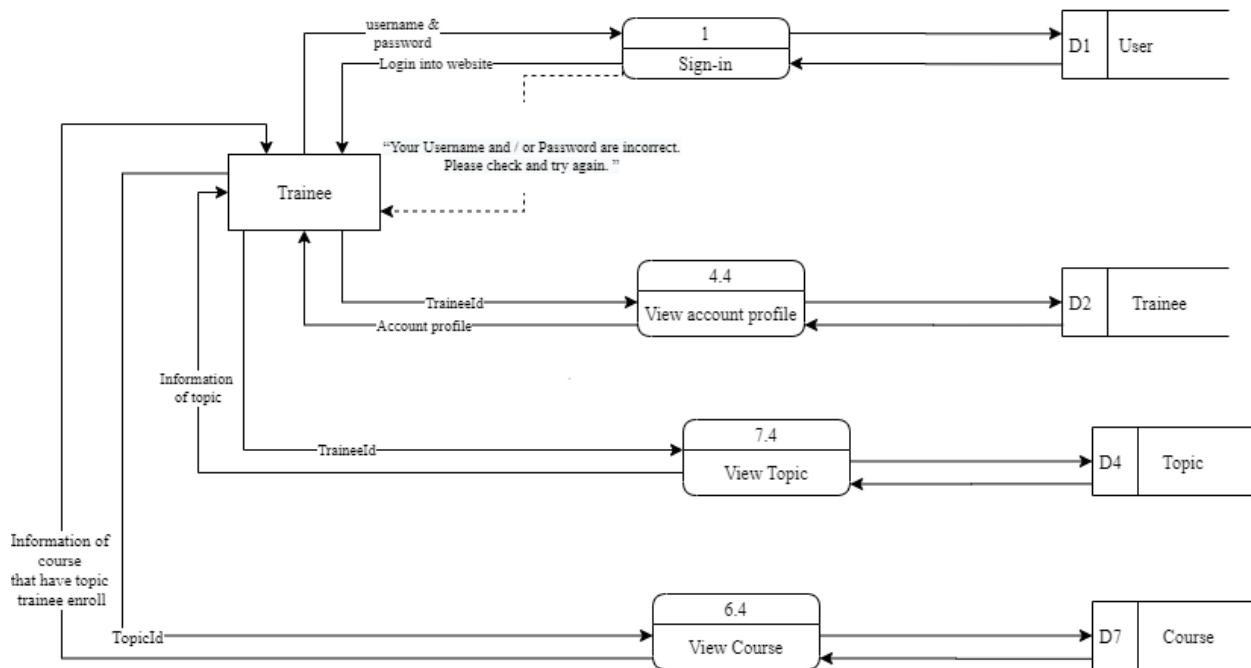
Figure 11 Data flow diagram for trainee role.

3.5 Screen mockup

3.5.1 Homepage Screen
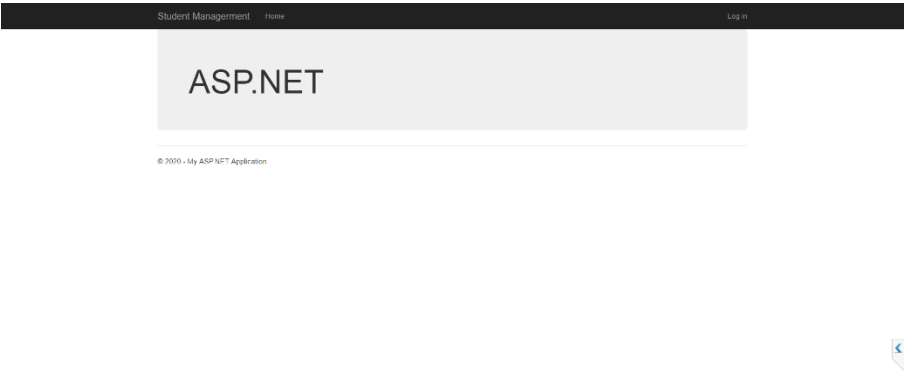
3.5.2 Login Screen
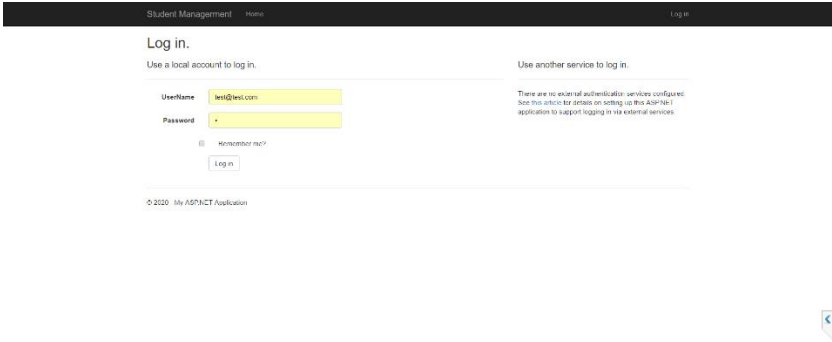
3.5.3 Adminitrator Screen
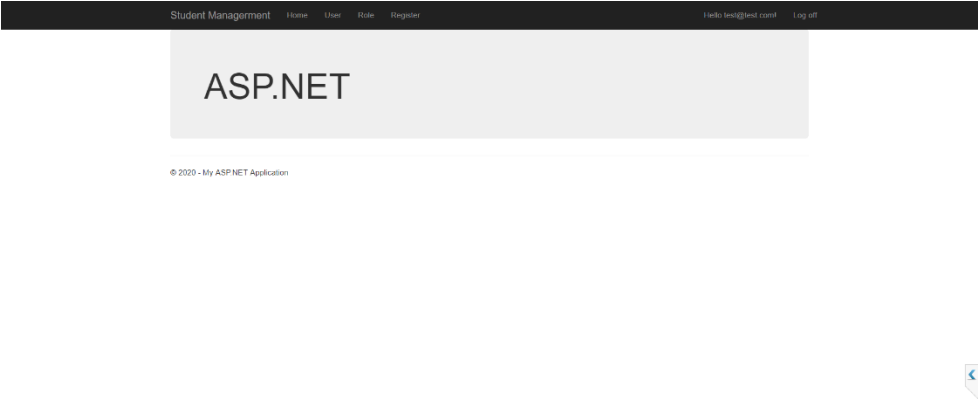
3.5.4 Administrator- View list of accounts

3.5.5 Administrator- View list of roles

3.5.6 Administrator- Create a new training staff/ trainer account

3.5.7   Training staff screen

3.5.8   Training staff- View list of trainers
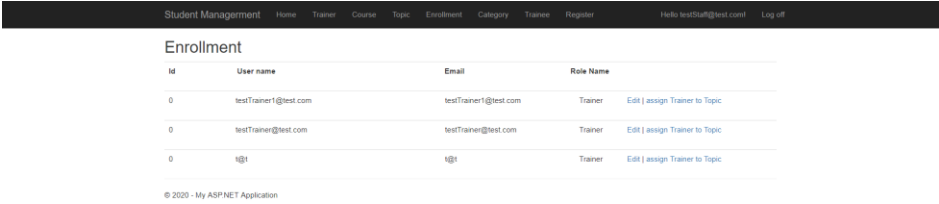
3.5.9   Training staff- Assgin Trainer To Topic
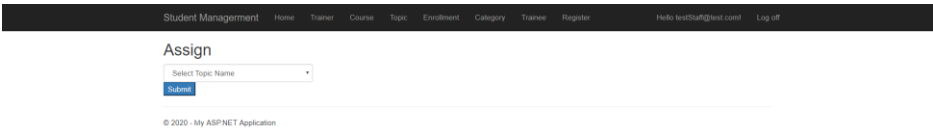
3.5.10 Training staff- View list of courses

3.5.11 Training staff- Edit/ update a course

3.5.12 Training staff- Create a new course

3.5.13 Training staff- View list of topics

3.5.14 Training staff- Create a new topic

3.5.15 Training staff- Edit/ update a topic

3.5.16 *Training staff- View list of enrollements*


3.5.17 *Training staff- Create a new topic*

3.5.18 *Training staff- Edit a topic*

3.5.19 Training staff- View list of categories

3.5.20 Training staff- Create a new category

3.5.21 Training staff- Edit a category

3.5.22 Training staff- View list of trainees

3.5.23 Training staff- Create a new trainee account

3.6 External Interface Requirement

3.6.1 User Interfaces

UI-1: Web application shall permit complete navigation, using the keyboard, in addition to using mouse and keyboard combinations.

3.6.2 Hardware Interface

No hardware interface have been identified.

3.6.3 Software Interface

SI-1: Database- The system shall communicate with a database through a programmatic interface for the following operations:

SI-1.1: To manage trainers, trainees, courses, topics.

SI-1.2: To allow trainers track their works

SI-1.3: To allow trainees track their training program.

3.6.4 Communication Interface
CI-1: The system shall send an email message to notification that registration with the system.

CI-2: The system shall send a notification to inform the user of new email messages, instant messages, or calendar event invitations.

CI_3: The system shall send an email message to announce when enjoy a course or topics.

4 Other Non-functional Requirements

4.1 Performance Requirements

PE-1: Response to queries shall take no longer than 10s to load onto the screen after the user submits the query.

PE-2: All Web page generated by system shall be fully downloadable in no more than 10 seconds over a 30KBps modem connection.

4.2 Safety and Security Requirements

SE-1: User shall be required to login to the system by the accounts that give from administrators.

SE-2: The system shall permit only member of FPT.Co who are on the list of authorized administrators to create or edit account.

SE-3: All network transactions that involve financial information or personally indentifiable information shall be encrypted.

SE-4: The system shall permit users who are not training staff or administrators to view only their own information, not the information of other users.

4.3 Software quality Attributes

No software quality attributes have been identified.